

Docket No. 10013014-1

Amendments to the Claims:

Claim status:

Claims 1-11 and 20-23 are presented for examination.

Claims 1, 6 and 20 are in independent form.

1. (Currently Amended) A method for configuring data communication paths between a central controller and a plurality of printing devices via a plurality of appliances, the method comprising:

ensuring one or more appliances of the plurality of appliances are active where an appliance is a computer remote from the central controller configured to collect diagnostic data from one or more of the plurality of printing devices and to transmit the diagnostic data to the central controller;

for each of the printing devices, determining communication capabilities with the one or more appliances to determine communication paths between the plurality of printing devices and the one or more appliances;

transmitting signals indicative of the communication capabilities to the central controller; and

mapping respective communication paths between the central controller and the printing devices via the one or more appliances as a function of the communication capabilities to obtain an automatic appliance failover to allow diagnostic data to be collected from a selected printing device by way of multiple appliances.

2. (Previously Presented) The method for configuring data communication paths as set forth in claim 1, further including:

for each of the printing devices, identifying an optimal path between the appliance and the printing device; and

wherein the mapping includes:

mapping the respective communication paths between the central controller and the printing devices as a function of the optimal paths.

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3. (Previously Presented) The method for configuring data communication paths as set forth in claim 2, wherein the identifying includes at least one of:

determining one of a plurality of paths between a selected appliance and a selected printing device having a least number of hops; and

determining one of a plurality of paths between the selected appliance and the selected printing device achieving a shortest communication time.

4. (Previously Presented) The method for configuring data communication paths as set forth in claim 1, further including:

for each of the printing devices, determining a second communication capability between a second appliance and the printing device;

transmitting signals indicative of the second communication capabilities to the central controller; and

wherein the mapping includes:

mapping the respective communication paths between the central controller and the printing devices via the first and second appliances as a function of the first and second communication capabilities.

5. (Previously Presented) The method for configuring data communication paths as set forth in claim 4, wherein the mapping includes:

substantially balancing respective printing device loads across the appliances.

6. (Currently Amended) A method for gathering diagnostic data, which are associated with a plurality of printing devices, by a central processing unit via a plurality of intermediate collectors that are connected to one or more of the plurality of printing devices through a network, where an intermediate collector is a computer remote from the control processing unit configured to collect diagnostic data from a selected printing device, the method comprising:

determining which of the plurality of intermediate collectors are capable of communicating with one or more of the plurality of printing devices to obtain a communication

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map to allow an automatic intermediate collector failover to occur if an intermediate collector fails to operate;

receiving a notification signal within the central processing unit that one of the intermediate collectors is available;

identifying one of the printing devices for which the diagnostic data is desired;

determining whether the identified printing device is capable of communicating with the available intermediate collector;

if the identified printing device is capable of communicating with the available intermediate collector:

transmitting a request signal from the central processing unit to the available intermediate collector requesting the diagnostic data for the identified printing device; and

transmitting signals indicative of the diagnostic data from the identified printing device to the central processing unit via the available intermediate collector.

7. (Previously Presented) The method for gathering diagnostic data as set forth in claim 6, further including:

determining optimal paths from each of the printing devices to the central processing unit via respective ones of the intermediate collectors; and

wherein the determining whether the identified printing device is capable of communicating with the available intermediate collector includes:

determining whether the identified printing device has an optimal path including the available intermediate collector.

8. (Previously Presented) The method for gathering diagnostic data as set forth in claim 7, further including:

if the central processing unit has not received the notification signal for a predetermined time that one of the intermediate collectors is available, retrieving the signals indicative of the diagnostic data for the printing devices having the respective optimal paths including the intermediate collector via another one of the intermediate collectors.

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9. (Previously Presented) The method for gathering diagnostic data as set forth in claim 6, further including:

identifying an additional printing device for which the diagnostic data is desired;
determining whether the additional identified printing device is capable of communicating with the available intermediate collector;

if the identified printing device and the additional identified printing device are capable of communicating with the available intermediate collector:

determining a balanced load for the available intermediate collector to include at least one of the identified printing devices;

transmitting a request signal from the central processing unit to the available intermediate collector requesting the diagnostic data for the balanced load; and

transmitting signals indicative of the diagnostic data from the balanced load to the central processing unit via the available intermediate collector.

10. (Previously Presented) The method for gathering diagnostic data as set forth in claim 9, wherein the determining the balanced load includes:

determining whether at least one of the identified printing devices is capable of communicating with another one of the intermediate collectors.

11. (Previously Presented) The method for gathering diagnostic data as set forth in claim 6, further including:

transmitting signals indicative of identifiers of the intermediate collectors and the respective printing devices with which the intermediate identifiers are capable of communicating to the central processing unit; and

wherein the determining whether the identified printing device is capable of communicating with the available intermediate collector includes:

comparing the identifier of the identified printing device with the identifiers of the printing devices capable of communicating with the available intermediate collector.

12-19. (Canceled).

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20. (Currently Amended) A system comprising:

a plurality of printing devices;

a plurality of appliances where an appliance is a computer configured to collect diagnostic data from one or more of the plurality of printing devices;

a communication network configured to provide a plurality of communication paths between components connected to the communication network;

the plurality of printing devices and the plurality of appliances being connected to the communication network where communication paths are provided between one or more of the plurality of printing devices and one or more of the plurality of appliances;

a controller remote from the appliances configured to communicate with the plurality of appliances and being configured to generate a map of the communication paths between the printing devices and the appliances based on signals received from the plurality of appliances;

the controller being configured to receive, from a first appliance from the plurality of appliances, diagnostic data relating to a selected printing device; and

the controller being configured to perform an automatic appliance failover to a second appliance using the map of the communication paths if ~~communication with the first appliance fails~~ is disabled in order to receive the diagnostic data relating to the selected printing device.

21. (Previously Presented) The system of claim 20 further including means for automatically mapping the communication paths based on signals received from the plurality of appliances.

22. (Previously Presented) The system of claim 20 further including means for ensuring each of the appliances is active.

23. (Previously Presented) The system of claim 20 further including means for identifying addresses of the appliances and addresses of the printing devices with which the appliances are capable of communicating.